

REMARKS

Applicants and the undersigned are most grateful for the time and effort accorded the instant application by the Examiner. The Office is respectfully requested to reconsider the rejection present in the outstanding Office Action in light of the following remarks.

This submission is made in response to the Non-Final Office Action dated April 24, 2008. Claims 1-17 are currently pending for examination, of which Claims 1, 8, and 15 are independent claims; the remaining claims are dependent claims. Claims 1-17 stand rejected. In this Amendment Applicants have rewritten independent claims 1, 8, and 15.

On Monday June 16, 2008, Applicants' representatives conducted a telephone interview with the Examiner James Wozniak and a Primary Examiner during which the pending claims and art of record were discussed. The claims as presented herein appeared to overcome the art of record, but it was indicated that further search would be required. It was further agreed that the Examiner would telephone the undersigned prior to issuing a further action if the claims as presented herein were not immediately allowable.

It should be noted that Applicants are not conceding in this application the claims amended herein are not patentable over the art cited by the Examiner, as the present claim amendments are only for facilitating expeditious prosecution. Applicants respectfully reserve the right to pursue these and other claims in one or more continuations and/or

divisional patent applications. Applicants specifically state no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Preliminary Matters

While Applicants maintain the previously presented claims are within the statutory subject matter contemplated by 35 USC 101, solely in an effort to facilitate expeditious prosecution of the instant application, Applicants have amended independent claim 1 to further ensure and clarify that the invention is directed to statutory subject matter. Claim 1 now recites, *inter alia*, “an arrangement which produces a pattern recognition decision.” Claim 1.

Notably, the independent claims now clearly recite that a pattern recognition decision is produced, thus giving a useful, concrete and tangible result to a user of the recognition apparatus, e.g., the apparatus allows a user “[t]o arrive at a verification decision, i.e., to either accept or reject the utterance X as being spoken by the target speaker or not.” *Specification*, pp. 8, lines 6-7. Applicants therefore respectfully request reconsideration and withdrawal of these rejections.

Notwithstanding the foregoing, Applicants are aware of the Office’s continued focus on the requirements of 35 USC 101. If the Examiner finds that there are any issues with the claims regarding 35 USC 101, Applicants request that the Examiner contact the undersigned by telephone before issuing another Office Action.

Rejections under 35 USC 112

Claims 1-7 and 16 stand rejected under 35 USC 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements; Claims 8-15 and 17 stand rejected under 35 USC 112, second paragraph, as being incomplete for omitting essential steps. Applicants respectfully request reconsideration and withdrawal of these rejections.

Applicants respectfully traverse the rejection, but solely in an effort to expedite prosecution of the instant application, Applicants have amended claims 1, 8, and 15, as discussed below. Applicants maintain that the claims as rewritten herein comply with the requirements of 35 USC 112. By virtue of their dependence from claim 1, 8, and 15. Applicants respectfully submit that claims 2-7, 9-14, and 16-17 also now unmistakably comply with 35 USC 112.

Rejections under 35 USC 102(b)

Claims 1-17 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,960,397 to Rahim (hereinafter, "Rahim"). Applicants respectfully request reconsideration and withdrawal of these rejections.

In the outstanding Office Action, the Examiner indicated that amendments to introduce limitations which parallel the arguments presented in the response filed in January 2008, could potentially place the claims in condition for allowance. (Office Action, Pages 3-4). At the very least, there was some indication that such claim amendments would overcome the rejections citing the Rahim reference. More

specifically, the Examiner recommended that “the claims be amended to better indicate how the base model, environmental detector, and transform arrangement work together to adapt a speaker identification model into an environment that is not trained for that particular speaker.” (Office Action, Page 4).

The previously submitted remarks regarding the Rahim reference remain applicable and are therefore incorporated herein for the sake of brevity. While Applicants maintain that Rahim does not disclose of the limitations of the independent claims, in order to expedite prosecution, the independent claims have been amended to recite, *inter alia*,

a transform arrangement which produces a stacked target model based on a feature vector corresponding to the environment A from which the at least one base model originated using:

$((f_a : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_A(x)), \text{wherein})$

A is the channel environment for training data set from which the base model originated;

X is a training data set of feature vectors of a target class;

X' is a transformed stacked target model training set;

\mathbb{R}^D is an input pattern feature space;

\mathbb{R}^M is a feature space calculated by base scores on the A-channel base models;

f_A is the stacked target model based on the feature vector corresponding to the environment A; and

there is independence between the at least one base model and the stacked target model allowing for a single enrollment of a target class;

a second transform arrangement which produces a channel compensation stacked target model based on a feature vector corresponding to environment B using:

$((f_b : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_b(x))$, wherein

B is the new channel environment;

\mathbb{R}^D is the input pattern feature space;

\mathbb{R}^M is a feature space calculated by base scores on the set of B-channel base models; and

f_b is the channel compensation stacked target model based on the feature vector corresponding to the new environment B;

a verification arrangement which compares the second transform with the first transform to arrive at a determination of mismatch in feature relationships present in environment A, wherein focus is preferably shifted from f_b to or from f_A depending on the degree of mismatch between the at least model from environment A and the model from environment B

Claim 1 (emphasis added). The other independent claims 8 and 15 have been amended to include similar language. This amended claim language is intended to clearly indicate the transform arrangements and verification arrangement of the present invention, which stand in stark contrast to the Rahim reference and which Applicants respectfully submit that the reference does not teach or suggest. (See Specification, page 4, lines 14-17; page 5, lines 1-16; page 6, lines 1-8, page 7, lines 2-7).

Applicants respectfully submit that Rahim does not teach the subject matter of claims 1, 15 and 28, as amended. Moreover, the newly amended claims make it clear that the reference does not teach all of the claim limitations, *inter alia*, the transform arrangements and verification arrangement of the present invention. Therefore, for at

least for this reason, Rahim, does not teach all of the limitations of the independent claims. Applicants thus respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. 102(b).

Request for Telephone Interview

As a reminder, it was agreed that if the amendments to the independent claims presented herein are not immediately allowable the Examiner would call the undersigned prior to issuing a further action. Applicants respectfully submit that this is a particularly appropriate request given the prosecution history of this case, in which a Request for Continued Examination has already been filed. Doing so, moreover, would further expedite prosecution as Applicants would agree to the entry any further amendments needed to distinguish the present invention from the applied art by way of Examiner's Amendment.

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Conclusion

In view of the foregoing, it is respectfully submitted that independent Claims 1, 8, and 15 fully distinguish over the applied art and are thus allowable. By virtue of dependence from Claims 1 and 8, it is thus also submitted that Claims 2-7, 9-14, and 16-17 are also allowable at this juncture. In summary, it is respectfully submitted that the instant application, including Claims 1-17, is presently in condition for allowance. Notice to the effect is hereby earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Stanley D. Ference III", written over a horizontal line.

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